

# Central Link Initial Segment

Seattle, Washington  
(November 2002)

## Description

Sound Transit (Central Puget Sound Regional Transit Authority) is proposing to implement a 13.9-mile light rail system, called the Central Link Initial Segment, from Convention Place through downtown Seattle to South 154<sup>th</sup> Station. The system would use the existing 1.3-mile Downtown Seattle Transit Tunnel (DSTT), the 1-mile Beacon Hill tunnel and include 0.1 miles of new tunnel (the Pine Street stub tunnel) in the vicinity of the Convention Place station. The small portion of tunnel that will be constructed will be used only for turnback operations. The Central Link Initial Segment is the first phase of a planned 24-mile light rail system called Link. The entire Link system will extend approximately three miles northward to Northgate and approximately eight miles southward to South 200<sup>th</sup> Street.

The Link LRT system is one element of Sound Transit's voter-approved ten-year \$3.9 billion (in 1995 dollars) Sound Move regional transit plan, which also includes the implementation of a 1.6-mile LRT line in downtown Tacoma; an 82-mile Sounder commuter rail system operating between Lakewood and Everett; 19 new regional express bus routes; and 45 major capital projects including 14 High Occupancy Vehicle (HOV) direct access ramps (providing access to over 100 miles of existing HOV lanes), 14 new park-and-ride facilities, nine transit centers, and other service improvements.

The proposed light rail project will connect several of the region's major activity centers. The project will expand transit capacity within the region's most dense and congested corridor, provide a practical alternative to driving on increasingly congested roadways, support comprehensive land use and transportation planning, provide environmental benefits, and improve mobility for residents in the corridor.

Summary Description	
<b>Proposed Project:</b>	Light Rail Transit Line 13.9 Miles, 11 Stations
<b>Total Capital Cost (\$YOE):</b>	\$2,491.6 Million
<b>Section 5309 New Starts Share (\$YOE):</b>	\$500 Million (20%)
<b>Annual Operating Cost (2020 \$YOE):</b>	\$42.2 Million
<b>Ridership Forecast (2020):</b>	42,500 Average Weekday Boardings 29,000 Daily New Riders
<b>Opening Year Ridership Forecast:</b>	N/A
<b>FY 2004 Finance Rating:</b>	Medium-High
<b>FY 2004 Project Justification Rating:</b>	Medium-High
<b>FY 2004 Overall Project Rating:</b>	Highly Recommended

The overall project rating of *Highly Recommended* is based on the project's adequate justification criteria and capital and operating plans. The overall project rating **reflects conditions as of November 2002**. Project evaluation is an ongoing process. As New Starts projects proceed through development, the estimates of costs, benefits, schedules, and impacts are refined. **The FTA ratings and recommendations will be updated annually to reflect new information, changing conditions and refined financing plans.**

## Status

The Sound Transit Board adopted the Sound Move regional transit plan in May 1996. Voters approved \$3.9 billion in local funding for implementation of the plan in November 1996. A Major Investment Study was completed in March 1997. Sound Move is included in the Puget Sound Regional Council's (the area's Metropolitan Planning Organization) long range transportation plan and Transportation Improvement Program.

FTA approved the initiation of Preliminary Engineering on the Link LRT in July 1997. A Draft Environmental Impact Statement (EIS) was published in December 1998. The Final EIS was completed in November 1999. FTA issued a Record of Decision in January 2000. The Sound Transit Board formally adopted a 7.2-mile initial Minimum Operable Segment (MOS) for Federal participation in November 1999. The MOS ran from NE 45<sup>th</sup> Street at the University of Washington to the maintenance base at South Lander Street in the industrial area south of downtown Seattle. Approximately 4.5 miles of this was new tunnel under Capitol Hill, Portage Bay, and the University of Washington. FTA approved the project's advancement into Final Design in February 2000. Based on increased costs for tunneling, right-of-way, mitigation, and other factors, Sound Transit increased the total project cost for the former MOS-1 and rescheduled the revenue operations date. In January 2001, the Sound Transit Board adopted the revised budget and schedule. FTA reviewed the revised finance plan, project management plan, and revised New Starts criteria. FTA entered into a Full Funding Grant Agreement (FFGA) for the former MOS-1 in January 2001.

After Congress and the U.S. Department of Transportation, Office of Inspector General, raised significant questions about project costs, the Sound Transit Board directed staff to re-examine the entire project. Staff had to determine if a portion of the 20-mile Locally Preferred Alternative could be identified as a new initial segment, or if MOS-1 could be redefined to reduce risks and better meet budget limitations. During this re-examination, the Board maintained its commitment to build the entire alignment. In September 2001, the Sound Transit Board identified the current Initial Segment from Convention Place to South 154<sup>th</sup> Station and in November 2001, it formally adopted the Initial Segment as a new MOS. An additional environmental review assessed the impacts of project changes, including the new termini and joint bus-rail operations in the DSTT and a new alignment through the City of Tukwila. A Supplemental EIS on the Tukwila segment was published in November 2001. The federal environmental review of the Central Link Initial Segment was completed in May 2002. Based upon supplemental environmental and financial review, FTA approved the project's entrance into Final Design in August 2002.

Through FY2002, Sound Transit has received \$90.97 million in New Starts funding for this project.

Project Justification Quantitative Criteria		
Mobility Improvements Rating: Medium		
	<u>New Start vs. Baseline</u>	
Average Employment Per Station	15,389	
Average Low Income Households Per Station	238	
Transportation System User Benefit Per Project Passenger Mile (Minutes)	3.2	
Environmental Benefits Rating: Medium		
<u>Criteria Pollutant Reduced</u> (tons)	<u>New Start vs. Baseline</u>	
Carbon Monoxide (CO)	465	
Nitrogen Oxide (NO <sub>x</sub> )	33	
Hydrocarbons	46	
Particulate Matter (PM <sub>10</sub> )	1	
Carbon Dioxide (CO <sub>2</sub> )	9,833	
<u>Annual Energy Savings</u> (million) BTU	120,143	
Cost Effectiveness Rating: Medium		
	<u>New Start vs. Baseline</u>	
Cost per Transportation System User Benefit (current year dollars/hour)	\$16.27	
Operating Efficiencies Rating: Medium		
	<u>Baseline</u>	<u>New Start</u>
System Operating Cost per Passenger Mile (current year dollars)	\$0.52	\$0.51

[ ] indicates an increase in emissions.

## Evaluation

The following criteria have been estimated in conformance with FTA's *Reporting Instructions for the Section 5309 New Starts Criteria*, updated in June 2002. FTA has evaluated this project as being in Final Design.

## Project Justification **Rating: Medium-High**

The *Medium-High* project justification rating reflects the project's average cost effectiveness rating and strong land use policies. Based on 1990 Census data, there are an estimated 2,616 low-income households within a ½-mile radius of the proposed stations, representing 18.1 percent of all households located within ½ mile of the stations. There are an estimated 169,300

jobs within a ½-mile radius of the proposed stations. The Central Puget Sound Region is classified by the U.S. Environmental Protection Agency as a “maintenance area” for carbon monoxide, ozone, and particulate matter. The Central Link Initial Segment has an incremental cost per incremental trip value of \$15.58.

## **Transit-Supportive Existing Land Use and Future Patterns**

### **Rating: Medium-High**

The *Medium-High* land use rating acknowledges that existing land uses along the proposed transit corridor are moderately transit-supportive, with intensive land uses in the northern portion and less dense development in the southern portion of the corridor. The rating recognizes the strong land use policies in place in the corridor and throughout the region.

**Existing Conditions:** The proposed 14-mile Central Link LRT Initial Segment runs south from downtown Seattle through the Rainier Valley in southeast Seattle to the Cities of Tukwila and SeaTac. In 1997, station area population (within ½ mile of station locations) was estimated at 44,600 and station area employment at 169,300, mostly in the CBD. Average population densities are moderate at 6,400 persons per square mile. Major trip generators include professional and college sports stadiums and SeaTac International Airport (served by a one-mile shuttle). The CBD contains residential as well as commercial development in a pedestrian-friendly environment. Neighborhoods in southeast Seattle are laid out on a grid street system with sidewalks and pedestrian crossings, but commercial use designs tend to be auto-oriented. Most neighborhoods are moderate-density single-family at roughly eight units per acre, with some pockets of multi-family development. High parking costs in the CBD, averaging over \$20 per day, limit the desirability of parking.

**Future Plans Policies and Performance:** Strong growth management policies have been adopted at a state, regional, and local level. A regional plan, Vision 2020, establishes urban growth boundaries and calls for higher-density, transit- and pedestrian-focused development. State law requires local consistency with regional growth management plans. Plans by the Cities of Seattle and SeaTac promote higher-density, mixed-use, and pedestrian-friendly development in transit station areas. Specifically, Seattle’s Comprehensive Plan identifies a network of Urban Centers, Hub Urban Centers, and Residential Villages within which new growth will be concentrated. The City of Seattle and Sound Transit have developed station area conceptual plans, including policy recommendations and implementation mechanisms. Consistent with these plans, an overlay district has been applied to station areas in the MOS corridor. This district prohibits auto-oriented uses and has changed standard commercial zoning to neighborhood commercial zoning, which allows mixed uses and includes pedestrian-oriented design requirements. While single-family zoning on 5,000 square foot lots (eight units per acre) has been preserved in residential areas, neighborhood commercial and multi-family residential zoning typically allows 26 to 43 units per acre. Local agencies and jurisdictions are also working to promote transit-oriented development (TOD). Sound Transit has developed a set of policies and a work program for joint development; King County has undertaken a TOD demonstration program; and the Puget Sound Regional Council has undertaken an education and outreach program on transit communities. Finally, the City of SeaTac has negotiated agreements with landowners around stations to make developments more transit-supportive.

## Local Financial Commitment

### **Rating: Medium-High**

The *Medium-High* local financial commitment rating was determined by the *Medium-High* rating for the capital financing plan and the *Medium-High* rating for the operating finance plan.

### **Proposed Non-Section 5309 New Starts Share of Total Project Costs: 80%**

### **Rating: High**

The project's financial plan includes Section 5309 New Starts funding and local funding from sales taxes and bonds.

<b>Locally Proposed Financial Plan</b>		
<b><u>Proposed Source of Funds</u></b>	<b><u>Total Funding (\$million)</u></b>	<b><u>Percent of Total</u></b>
<b>Federal:</b> Section 5309 New Starts	\$500.0	20.0 %
<b>Local:</b> Retail Sales and Vehicle Excise Taxes	\$919.7	37.0 %
Long-Term Bonds	\$1,071.9	43.0%
<b>Total:</b>	<b>\$2,491.6</b>	100.0 %

**NOTE:** Funding proposal reflects assumptions made by project sponsors, and are not DOT or FTA assumptions. Total may not add due to rounding.

## Stability and Reliability of Capital Financing Plan

### **Rating: Medium-High**

The *Medium-High* rating is based on the low FTA share of the project costs, high current bond ratings, future revenue estimates and the good financial condition of the sponsoring agency.

**Agency Capital Financial Condition:** Sound Transit is a relatively young agency that started transit operations in 1999 with its Regional Express Bus Service and in 2000 with Sounder Commuter Rail. The average age of the bus fleet is only 1.3 years. The agency has received an A1 bond rating from Moody's and an AA bond rating from Standard and Poor's.

**Capital Cost Estimate and Contingencies:** Sound Transit has submitted an updated cost estimate that is considered reasonable. Contingencies include a project reserve of \$128 million, \$120 million in construction contingencies, and \$100 million in design contingencies. The project budget also includes \$605 million in uncommitted bonding capacity that could be made available.

**Existing and Committed Funding:** All of the local share funding for the Central Link LRT Initial Segment is committed. Local taxes have been collected since 1997, and represent 89 percent of the non-Section 5309 local share. Bond proceeds are anticipated to fund the remaining portion of the local share. The voter approval of Initiative 776 in November 2002 is not anticipated to affect project funding.

**New and Proposed Sources:** Bond proceeds for the project are considered new, although the agency issued bonds in FY 1999 in the amount of \$350 million. The agency has a “non-voted debt limit” of \$3.4 billion, and anticipated debt is not expected to exceed \$2.4 billion, which is well below that threshold.

## **Stability and Reliability of Operating Finance Plan**

### **Rating: Medium-High**

The *Medium-High* rating reflects a good operating plan. Most of the operating revenues (95.8 percent) are committed and the remainder (4.2 percent) consists of planned Federal formula funds.

**Agency Operating Financial Condition:** The agency uses a conservatively estimated cash-flow schedule that shows consistent, positive balances throughout the entire plan, including the past five years. The operating and maintenance cash reserves plus general fund balances are sufficient to cover at least three months of operating expenditures from FY 2004 through FY 2008.

**Operating Cost Estimates and Contingencies:** The operating cost estimates for the LRT Initial Segment are based on experience from other light rail systems currently operating in the U.S. Tax revenue estimates are conservative relative to historic experience, projected at an annual growth rate well below prior year growth rates. In addition to the required two-month operating and maintenance reserve fund, the agency anticipates cash balances that are sufficient to cover potential shortfalls/cost increases. Sound Transit maintains an operating and maintenance (O&M) reserve fund, equivalent to two months of operating expenditures, to meet potential shortfalls/cost increases. This reserve fund, combined with General Fund balances, provides sufficient funding to cover at least two months of O&M expenditures until 2008, and increasing thereafter through 2021. The O&M plan shows conservative growth of funding revenues relative to historical trends.

**Existing and Committed Funding:** All of the operating funds are committed. Sound Transit proposed to fund operations with existing system and fare revenues, local tax revenues, interest on General Fund balances, and formula funds. Local taxes have been collected since 1997, and represent a stable revenue source for the agency.

**New and Proposed Funding Sources:** New sources of funding include Central Link fares. The operating plan anticipates starting collection of formula grant revenues in FY 2007.

# Central Link Initial Segment

## Seattle, Washington



